

RYL'KIN, S.S.; POKROVSKAYA, N.V.

Role of acetic acid in the biosynthesis of brewer's yeasts.  
Trudy VNIIPP no.7:98-105 '59. (MIRA 13:5)  
(Yeast) (Acetic acid)

RYLIN, A.S.

Increase the quality of roller bearings and the ease with which  
they can be installed. Elek. i tepl. tiaga 4 no.11:43 N '60.  
(MIRA 13:12)

1. Starshiy inzhener-konstruktor Luganskogo zavoda.  
(Electric locomotives--Equipment and supplies)  
(Roller bearings)

RYL'KIN, S. S., Candidate Biol Sci (diss) -- "The participation of acetaldehyde, acetic acid, glycine, and lactic acid in the biosynthesis of substances by yeast in alcoholic fermentation". Moscow, 1959. 11 pp (Soil-Biol Faculty, Moscow Order of Lenin State U im M. V. Lomonosov), 120 copies (KL, No 25, 1959, 130)

Rylkin, S.S.

USSR/Microbiology - Industrial Microbiology.

F-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, 194-7

Author : Veselov, I.Ya., Pokrovskaya, N.V., Rylkin, S.S.

Inst : -

Title : Participation of  $\text{CH}_3\text{COOH}$  and  $\text{CO}_2$  in the Biosynthesis of Brewers' Yeast and Formation by Yeast of Substances Causing Turbidity of Beer on Storage.

Orig Pub : Tr. Vses. n.-i. in-t pivover. prom-sti, 1957, No 6, 141-149

Abstract : No abstract.

Card 1/1

RYL'KIN, S. S., VEGELOV, I. Y., POKROVSKAYA, N. V. and SHIL, V. N.

"Certain data concerning the physiology of yeast in fermentation of malt must," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

DENSHCHIKOV, M.T.; RYLINK, S.S.; ZHVIRBLYANSKAYA, A.Yu.

Disinfection under the conditions of the continuous brewing method.  
Trudy TSentr.nauch.-issl.inst.piv., bezalk. i vin.prom.no.11:77-79  
'63. (MIRA 17:9)

DENSHCHIKOV, M.T.; RYLINK, S.S.; ZHVIRBLYANSKAYA, A.Yu.

Study of carbohydrate metabolism in bottom-fermenting brewer's yeast  
under conditions of continuous flow brewing. Mikrobiologiya 30 no.6:  
990-994 N-D '61. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut pivovarennoy  
promyshlennosti, Moskva.  
(YEAST) (CARBON METABOLISM) (BREWING)

DENSHCHIKOV, M.T.; RYLINK, S.S.; ZHVIRBLYANSKAYA, A.Yu.

Formation of diacetyl and acetoin during the fermentation of  
brewers' wort. Mikrobiologija 31 no.1:140-145 Ja-F '62.

(MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut pivovarennoy  
promyshlennosti, Moskva.  
(BUTANEDIONE) (BUTANONE) (BREWING)

JANOWSKI, Tomasz M.; RYJKO, Antoni (Krakow)

Tables of physiological saturation deficit according to Szymkiewics's  
method for 39 ° C. Rocznauk roln wet 70 no.1/4:142-144 '60.  
(EEAI 10:9)

(Domestic animals)

Polonica III. under specific conditions it is necessary to vary the dosages according to the analytical results and the

RYLKO, Stanislaw, pplk.mgr.

Review of scientific achievements of military pharmacists during  
the postwar period. Farmacja Pol 18 no.15/16:366-368 Ag '62.

\*

DANILOVA, G.V., inzh.; RYL'KOV, K.A., inzh.

Polymers and synthetic materials in water management; at  
the thematic exhibition in the Water Management Pavilion  
of the Exhibition of Achievements of the National Economy  
of the U.S.S.R. Gidr. i mel. 15 no. 7:43-52 Jl '63.

(MIRA 16:8)

SHEVCHENKO, P.V.; RYL'KOV, K.G.

Investigating the strength of the axle and wheel press joints.  
Trudy KHIIT no.49:55-70 '61. (MIRA 15:12)  
(Car wheels) (Car axles)

RYL'KOV, V. A., KUDRIKOV, V. N., TROCHIN, I. P., and others  
Investigation of a sensitized autochamical decom-  
position of methyl iodide at selected means of electric pa-  
rization of magnetic resonance. Dokl. AN SSSR 197 No. 2 356-359, N 165.  
(NIIA 18:11)

L 61837-65 EWT(m)/EPF(c)/EWA(d)/EWP(v)/T/EWF(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)  
Pf-l/Pr-4 IJP(c) MJW/JD/HM UR/2563/65/000/245/0066/0076 38  
ACCESSION NR: AT5014464 35

AUTHOR: Petrov, G. L.; Rylov, L. F.

TITLE: Comparative studies on the effect of the thermal welding cycle on the properties of certain low-alloy steels

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 245, 1965.  
Svarochnoye proizvodstvo (Welding production), 66-76

TOPIC TAGS: low alloy steel, thermal welding cycle, steel strength, steel density, weld zone structure, low carbon steel

ABSTRACT: The most dangerous changes in the basic metal properties caused by thermal influences near welds are in the area immediately adjacent to the actual seam. The present paper reports the results of a study and of estimates of the influence of thermal welding cycles on several low-carbon low-alloy construction steels. All steel samples (A1, A2, A3, and A4) proved to be sensitive to thermal influences from manual or automatic welding. The changes in numerous physical properties (e.g. lowering of specific gravity with a simultaneous increase in hardness and rigidity) agreed well with observed structural changes. Reductions in density may play an important role in conjunction with the possible increased

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ACCESSION NR: AT5014464

retention of hydrogen.<sup>1</sup> Finally, after heating up to 1250-1350C, a region of minimum plasticity was observed along the cooling branch at about 200-300C. Orig. art. has: 1 formula, 6 figures, and 4 tables.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina  
(Leningrad Polytechnic Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 001

dm  
Card 2/2

RYLKOV, N.

Moscow Canal is 25 years old. Rech.transp. 21 no.7:33-38 Jl  
'62. (MIRA 15:8)

1. Nachal'nik Upravleniya kanala imeni Moskvy.  
(Moscow Canal)

KRYLOV, V.I.; BLINOV, G.S.; RYLOV, N.I.

Deep well investigations conducted with a view to studying the  
structure of an absorbing bed. Burenje no.3:10-14 '65.

(MIRA 18:5)

1. Tatarskiy neftyanoy nauchno-issledovatel'skiy institut.

SOV/124-58-8-8797

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 67 (USSR)

AUTHOR: Ryl'kov, V.G.

TITLE: A Hydraulic Investigation of the Forebay Fairings of a Connecting Abutment (Gidravlicheskiye issledovaniya verkhovykh otkrylkov sopryagayushchego ustoya)

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-ta,  
1957, Nr 8, pp 46-56

ABSTRACT: A description is given of experimental investigations made of ten types of forebay fairings of the abutments connecting concrete overfall-spillway dams with earthen dams not equipped with spillways. The author indicates which types are the best from the hydraulic standpoint.

V.V. Fandeyev

Card 1/1

RYL'KOV, V. G.

Cand Tech Sci - (diss) "Problem of designing of adjoining buttresses in spillway dams." Leningrad, 1961. 23 pp; (Ministry of Construction of Electric Power Stations USSR, All-Union Scientific Research Inst of Hydraulics imeni B. Ye. Vedeneyev); 220 copies; free; (KL, 7-61 sup, 245)

ACC NR: AP6028189

SOURCE CODE: UR/0032/66/032/006/0683/0686

AUTHOR: Chizhik, V. I.; Ryl'kov, V. V.

CRG: Scientific Research Physics Institute, Leningrad State University (Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta)

TITLE: Method for determining resolution in nuclear resonance spectra

SOURCE: Zavodskaya laboratoriya, v. 32, no. 6, 1966, 683-686

TOPIC TAGS: spectrum analysis, nuclear resonance, nuclear spin

ABSTRACT: The article describes a method for determining the displacement frequency between two lines of the nuclear magnetic resonance spectrum. The method is based on separation of the frequencies of the beats from signals of the spin echo. One of the most important characteristics of nuclear resonance spectra is the position of the spectral lines corresponding to nuclei belonging to different molecules or chemical groups. In some cases, the position of the lines depends on the concentration of the component under study. By studying the spectra of the magnetic resonance it is possible to determine the relative concentration of the component and, consequently, to control industrial processes by this method. The article gives a very detailed electric diagram of the circuit used for measurement of the frequency of the beats in the bending of the signal of the spin echo. The method is stated to have the following

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UDC: 539.121.64

ACC NR: AP6028189

limitations: 1) it is difficult or impossible to obtain information for spectra consisting of more than two lines; 2) the pulse method for observation of nuclear resonance is somewhat inferior in sensitivity to the stationary method; this reduces the accuracy of the measurements in the case of weak spectral lines. Orig. art. has: 3 figures and 1 table.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

Card 2/2

L 18912-66 EWT(m)/EWP(j)/T/ETC(m)-6 DS/WW/RM  
ACC NR: AF6008056 SOURCE CODE: UR/0020/66/166/004/0913/0916

AUTHOR: Ryl'kov, V. V.; Kholmogorov, V. Ye.; Terenin, A. N. (Academician)

ORG: none

TITLE: Double photosensitization of the dissociation of organic molecules at 77°K  
(ternary systems) *144SS*

SOURCE: AN SSSR. Doklady, v. 166, no. 4, 1966, 913-916

TOPIC TAGS: photosensitization, photolysis, electron paramagnetic resonance, free radical, electron spin resonance

ABSTRACT: The possibility of achieving a double spectral sensitization of the dissociation of organic molecules at 77°K was checked experimentally on ternary systems (solid solutions at 77°K) consisting of two spectral sensitizers and a third component which underwent photolysis into radicals, viz: (1) acetophenone + naphthalene + CH<sub>3</sub>I; (2) benzophenone + naphthalene + CH<sub>3</sub>I; (3) acetophenone + biphenyl + CH<sub>3</sub>I; (4) benzophenone + biphenyl + CH<sub>3</sub>I; (5) acetophenone + naphthalene + tert-butyl alcohol. The frozen solutions were illuminated with light from a mercury lamp, and their electron spin resonance spectra were taken. The results lead to the

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UDC: 541.14 + 538.113

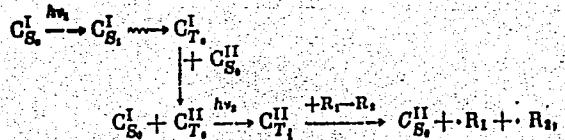
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L 18912-66

ACC NR: AP6008056

following mechanism of double photosensitization of the rupture of the C-I bond in CH<sub>3</sub>I or the C-C bond in tert-butyl alcohol:



where C<sup>I</sup> and C<sup>II</sup> are the first and second sensitizer; R<sub>1</sub>-R<sub>2</sub> is the molecule of photolyzed substrate; S<sub>i</sub> and T<sub>i</sub> are designations of singlet and triplet states of the sensitizers (i = 0, 1, 2, 3...). This mechanism suggests that electron energy is transferred from the sensitizer, excited to high triplet states T, to the substrate molecule. It is concluded that the ESR method, which records the accumulation of free radicals in the course of sensitized photolysis of the substrate, is a unique detector-counter of the number of successful cases of energy transfer leading to the breakdown of the substrate molecule and to the formation of the corresponding radicals, and thus permits a study of such processes. Orig. art. has: 2 figures, 1 formula.

SUB CODE: 07, 09 SUBM DATE: 13Nov65 ORIG REF: 007 OTH REF: 002

Card 2/2 my

BERNADZKI, Jerzy, mgr inz.; RYLL, Jerzy, mgr inz.

New solutions in designing sewage purification stations. Gaz  
woda techn sanit 37 no.10:315-316 C '63.

1. Stolica Design Office of Communal Constructions, Warsaw.

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001446420013-6

GOLISZEWSKI, Jerzy, mgr., inz.; MICHNIEWICZ, Marian, mgr., inz.; RYLL, Jerzy,  
mgr., inz.

Sewage purification of the Capital City of Warsaw. Gosp wodna 21 no.10:  
457-461 O '61.

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001446420013-6"

BERNADZKI, Jerzy, mgr inz.; RYLL, Jerzy, mgr inz.

Certain problems and solutions concerning sewage purification stations in Sweden and The Netherlands. Gaz woda techn sanit 37 no.11:381-382 N '63.

1. Stolica Design Office of Communal Constructions, Warsaw.

Ryll Zofia

POLAND/Nuclear Physics - Structure and Properties of Nuclei

C-4

Abs Jour : Ref Zhur - Fizika, No 3, 1958, No 5439

Author : Ryll Zofia

Inst : Not Given

Title : Elastic Scattering of High Energy Electrons by Nuclei

Orig Pub : Postepy fiz., 1957, 8, No 2, 219-256

Abstract : No abstract

Card : 1/1

RYLL-NARDZEWSKI, C.

Generalized random ergodic theorems and weakly almost periodic functions. Bul Ac Pol mat 10 no.5:271-275 '62.

1. Institute of Mathematics, Polish Academy of Sciences, Warsaw.  
Presented by E.Marczewski.

RYLL-NARDZEWSKI, Czeslaw

**DECEASED**

1963/3

1962

BIOLOGY -  
dermatology

see ILC

2  
3  
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Ryll-Nardzewski, C. Un théorème sur la convergence uniforme dans l'intérieur. Colloquium Math. 1, 145-147 (1948).

A sequence of real-valued functions defined over an open set  $G$  in a finite-dimensional Euclidean space is said to converge uniformly in the interior of  $G$  if it converges uniformly on any closed subset of  $G$ . In the topology defined by uniform convergence in the interior many well-known spaces of functions defined over  $G$  are spaces of type (F). In this paper it is shown that a necessary and sufficient condition that such a space  $M$  be a Banach space is that there exist a closed subset  $F_0 \subset G$  such that every sequence  $f_n \in M$  which converges to 0 uniformly on  $F_0$  converges uniformly to 0 in the interior of  $G$ .

R. E. Fullerton.

Source: Mathematical Reviews.

Vol 10 No. 1

LW  
JY

Ryll-Nardzewski, Czeslaw. Une remarque sur la convergence faible. Fund. Math. 35, 240-241 (1948).

Remarque sur l'article de Mikusiński [analysé ci-dessus].

L. Schwartz (Nancy).

Source: Mathematical Reviews.

Vol 10 No. 6

RYLL-NARDZEWSKI, C.  
PIDEK, H.,  
BIERNACKI, M.,  
RYLL-NARDZEWSKI, C.: About an Inequality Between Definite Integrals

Biernacki, M., Pidek, H., et Ryll-Nardzewski, C. Sur une  
Inégalité entre des intégrales définies. Ann. Univ.  
Mariae Curie-Sklodowska, Sect. A, 4, 1-4 (1950).  
(French, Polish summary)

The authors give a simple proof of the known result that  
for  $f(x_1, \dots, x_n), g(x_1, \dots, x_n) \geq 0$  in a domain  $D$  of content  
 $V$  we have

$$\left| \frac{1}{V} \int_D f g dV - \frac{1}{V} \int_D f dV \int_D g dV \right| \leq \{(\sup f)(\sup g).$$

The paper was written in 1945, but a footnote contains  
references to subsequent pertinent literature; for these, see  
also J. Karamata [Acad. Scribe Sci. Publ. Inst. Math. 2,  
131-145 (1948); these Rev. 10, 435]. E. F. Beckenbach.

Source: Mathematical Reviews,

Vol 13 No. 2

RYLL-NARDZEWSKI, CZESLAW

Ryll-Nardzewski, Czeslaw. Une extension d'un théorème de Sturm aux fonctions analytiques. Ann. Univ. Mariae Curie-Skłodowska. Sect. A. 4, 5-7 (1950). (French. Polish summary)

Sturm's theorem on the minimum distance between the zeros of a solution of the differential equation  $y'' + A(x)y = 0$  is equivalent to the theorem that a twice differentiable function  $f(x)$ , not identically zero, has at most one zero in any open interval  $S$  of length  $\pi/M$  if  $|f''(x)/f(x)| \leq M^2$  in  $S$ . This theorem is generalized in the present paper as follows: Let  $f(z)$  ( $\neq 0$ ) be an analytic function of the complex variable  $z$  in a convex domain  $D$  of diameter  $\pi/M$  and let  $|f''(z)/f(z)| \leq M^2$  in  $D$ ; then  $f(z)$  has at most one zero in  $D$ . To prove this theorem, the author assumes that at least two zeros of  $f(z)$  lie in  $D$ , and chooses two  $z_1$  and  $z_2$  such that the line segment joining  $z_1$  and  $z_2$  has no additional zero of  $f(z)$ . The real part of the function

$$g(t) = f[z_1 + (z_2 - z_1)t], \quad 0 \leq t \leq 1,$$

of the real variable  $t$  is then found to satisfy a differential equation of the above type, but, in contradiction to Sturm's theorem, to have a zero at both  $t = 0$  and  $t = 1$ .

M. Marden (Milwaukee, Wis.).

Source: Mathematical reviews.

Vol. 13 No. 3

*Ryll-Nardzewski, Czeslaw*

RYLL-NARDZEWSKI,  
CZESLAW: On the  
Logarithmic Derivative  
of Monotonic  
Functions

*Math*  
Ryll-Nardzewski, Czeslaw. Sur la dérivée logarithmique  
des fonctions monotones. Ann. Univ. Mariae Curie-  
Skłodowska. Sect. A. 4, 9-12 (1950). (French. Polish  
summary)

Relative to an unpublished result of Biernacki [presented  
at the Fifth Polish Mathematical Congress, Cracow, 1947],  
the author develops inequalities concerning solutions  
 $y(x) \neq 0$  of the differential equation  $y^{(n)}(x) = A(x)y(x)$  for  
 $x \geq x_0$ , where  $A(x)$  is positive, continuous, and nondecreasing,  
with  $y^{(i)}(x_0) \geq 0$  for  $i = 0, 1, \dots, n-1$ . Seemingly a per-  
sistent misprint, adversely affecting the validity of the  
analysis, originated in the preparation of the manuscript.  
Thus the left side of the first inequality obtained,

$$(1) \quad \frac{u_i}{u_{i-1}} \leq \frac{n-i}{n-i-1} \quad (i=1, \dots, n-2),$$

where  $u_i(x) = y^{(i)}(x)/y^{(i-1)}(x)$ , apparently should be replaced  
by  $u_i/u_{i+1}$ ; and the rest of the analysis depends on (1) as  
written. *E. F. Beckenbach* (Princeton, N. J.).

Source: Mathematical Reviews, Vol. 13 No. 2

*Sym*

Ryll-Nardzewski, C.

Hartman, S., Marczewski, E., et Ryll-Nardzewski, C.  
Théorèmes ergodiques et leurs applications. Colloquium  
Math. 2, 109-123 (1951).

Exposition of recent results in ergodic theory centering around Birkhoff's individual ergodic theorem and its applications. The mapping  $\varphi$  in question is measure preserving, but not necessarily one-to-one. This makes it possible to apply the individual ergodic theorem to the mapping  $s(x) = 2x \pmod{1}$  or to the shift transformation of a "one-sided" infinite direct product measure space, and to obtain the classical result of Borel concerning normal numbers or the strong law of large numbers of Kolmogoroff. Applications of the individual ergodic theorem to the problems of continued fractions are also discussed. Most of the results discussed in this paper can be found in a paper by F. Riesz [Comment. Math. Helv. 17, 221-239 (1945); these Rev. 7, 255] and three papers by C. Ryll-Nardzewski and S. Hartman [see the reviews of these three papers above].

S. Kakutani (New Haven, Conn.).

Source: Mathematical Reviews,

Vol 15 No. 8

~~RYLL-NARDZEWSKI~~ /CZ/

MIKUSINSKI, J. G.,  
RYLL-NARDZEWSKI, CZ.: On the Composition Products

~~Mikusinski, J. G., et Ryll-Nardzewski, Cz.~~ Sur le produit  
de composition. Studia Math. 12, 51-57 (1951).

Série de remarques simples sur les propriétés de continuité  
et différentiabilité du produit de composition de deux fonc-  
tions, à partir des propriétés de chacune d'elles.

L. Schwartz (Nancy).

Source: Mathematical Reviews,

Vol. 13 No. 3

13 3

Ryyl-Nardzewski, C. On the ergodic theorems. I. Generalized ergodic theorems. *Studia Math.* 12, 65-73 (1951).

Let  $\mathcal{E}$  be a  $\sigma$ -field of subsets  $E$  of a space  $X$ , and let  $\mu$  be a countably additive measure defined on  $\mathcal{E}$  with  $\mu(X) < \infty$ . Let  $\varphi$  be a mapping of  $X$  into itself such that (i)  $E\varphi$  implies  $\varphi^{-1}(E)\in\mathcal{E}$ , (ii)  $\mu(E)=0$  implies  $\mu(\varphi^{-1}(E))=0$ , but not necessarily measure preserving ( $\mu(E)=\mu(\varphi^{-1}(E))$ ). Let  $L(\mu)$  be the  $L^1$ -space on  $X$  with respect to  $\mathcal{E}$  and  $\mu$ . Consider the following conditions: (B) for each  $f\in L(\mu)$  there exists a  $\mathcal{E}\varphi$  such that

$$\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^{n-1} f(\varphi^k(x)) = g(x)$$

$\mu$ -almost everywhere on  $X$ ; (N) for each  $f\in L(\mu)$  there exists a  $\mathcal{E}\varphi$  such that

$$\lim_{n \rightarrow \infty} \left| \frac{1}{n} \sum_{k=1}^{n-1} f(\varphi^k(x)) - g(x) \right|_\mu = 0;$$

(DM) there exists a constant  $K$  such that

$$\frac{1}{n} \sum_{k=1}^{n-1} \mu(\varphi^{-k}(E)) \leq K\mu(E)$$

for all  $E\in\mathcal{E}$  and for  $n=1, 2, \dots$ ; (H) there exists a constant  $K$  such that

$$\limsup_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^{n-1} \mu(\varphi^{-k}(E)) \leq K\mu(E)$$

for all  $E\in\mathcal{E}$ . It is clear that (i) (DM) implies (H). The author proves that (ii) (B) and (H) are equivalent, (iii) (N) and (DM) are equivalent, and (iv) (H) does not necessarily imply (DM). (ii) is the main result of this paper. (In case  $\mu$  is  $\sigma$ -finite, (H) is replaced by other conditions, for example, by (H) there exists a constant  $K$  such that

$$\limsup_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^{n-1} \mu(Y\cap \varphi^{-k}(E)) \leq K\mu(E)$$

for all  $E\in\mathcal{E}$  and for all  $Y\in\mathcal{E}$  with  $\mu(Y) < \infty$ . The proof of (ii) is based on the idea of Y. N. Dowker [Duke Math. J. 14, 1051-1061 (1947); *Trans. Amer. Math. Soc.* 60, 538-549 (1946)] of using the Banach limit. (iii) was originally obtained by Dunford and Miller [Trans. Amer. Math. Soc. 55, 280] who also proved that (v) (N) implies (B). It is to be observed that (v) is now an immediate consequence of (i), (ii) and (iii). Finally, (iv) is proved by constructing a counter-example which is a modification of that of Y. N. Dowker [Bull. Amer. Math. Soc. 55, 379-383 (1949); *these Rev.* 10, 718]. S. Kakutani (New Haven Conn.)

Source: Mathematical Reviews,

Vol. 13 No. 8

RELL-NARIZERSKI, C. On the ergodic theorem. II. Ergodic theory of continued fractions. Studia Math. 12, 74-79 (1951).

Let

$$\delta(x) = \frac{1}{c_1(x)} + \frac{1}{c_2(x)} + \frac{1}{c_3(x)} + \dots$$

be a continued fraction expansion of an irrational number  $x$  ( $0 < x < 1$ ), and put

$$\delta(x) = \frac{1}{c_1(x)} + \frac{1}{c_2(x)} + \frac{1}{c_3(x)} + \dots - \frac{1}{x} \left[ \frac{1}{x} \right].$$

where  $c_n(x)$  are positive integers and  $\lceil x \rceil$  denotes the integral part of  $x$ . As a mapping of the set  $X$  of all irrational numbers  $x$  with  $0 < x < 1$  onto itself,  $\delta$  is not one-to-one (in fact,  $\delta$  is an infinity-to-one mapping), but is measure preserving with respect to the measure  $\nu(E)$  defined for all Lebesgue measurable subsets  $E$  of  $X$  by  $\nu(E) = (\log 2)^{-1} \int_{\{x|1+x \in E\}} c_1(x) dx$ , i.e.,  $\nu(\delta^{-1}(E)) = \nu(E)$  for any Lebesgue measurable subset  $E$  of  $X$ . The measure  $\nu(E)$  satisfies

$$\nu(E)/2 \log 2 \leq \nu(E) \leq m(E)/\log 2$$

for all  $E$ , where  $m(E)$  is the Lebesgue measure of  $E$  with the normalization  $m(X) = 1$ . (From this follows that integrability is equivalent to Lebesgue integrability.) The author first shows that  $\delta$  is indecomposable, i.e. that any Lebesgue measurable subset  $E$  of  $X$  with  $\delta^{-1}(E) = E$  satisfies either  $\nu(E) = 0$  or  $\nu(E) = 1$ . Essentially the same result was previously obtained by K. Knopp [Math. Ann. No. 95, 409-426 (1926)]. From Birkhoff's individual ergodic theorem there follows that for any Lebesgue integrable function  $f(x)$  defined on  $X$ ,

$$\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^{n-1} f(\delta^k(x)) = \frac{1}{\log 2} \int_0^1 f(x) \frac{dx}{1+x}$$

for almost all  $x$ . The author applies this result to the function  $f(x) = \log c_1(x)$  and obtains the result of A. Khintchine [Compositio Math. 1, 359-382 (1935)]:

$$\lim_{n \rightarrow \infty} \sqrt[n]{\prod_{k=1}^n c_k(x)} = \prod_{p=1}^{\infty} \left( 1 + \frac{1}{\log(p+2)} \right)^{-1}$$

for almost all  $x$ . If  $f(x)$  is the characteristic function of the set of all  $x \in X$  such that  $c_1(x) = p$ , then we have the result of P. Lévy [ibid. 3, 286-303 (1936)] for any positive integer  $p$ , and for almost all  $x \in X$ , the frequency of  $p$  in the sequence  $\{c_n(x)\}_{n=1}^{\infty}$  exists and is equal to  $(\log 2)^{-1} \log((p+1)/\rho(p+2))$ .

S. Kakutani (New Haven, Conn.)

RYLL-NARDZEWSKI, C.: On Equally Distributed Sequences and Functions

Ryll-Nardzewski, C. Sur les suites et les fonctions également réparties. Studia Math. 12, 143-144 (1951).

The paper is devoted to the proof of the following theorem. If  $f$  is a real measurable function and if either (a) the sequence  $(f(n+t))$  is equally distributed mod 1 for almost all  $t$ , i.e. the asymptotic frequency of the subsequence  $(n_t)$  such that  $|f(n_t+t) - \lceil f(n_t+t) \rceil| < \alpha$  is  $\alpha$ , or (b) the sequence  $|f(nt)|$  is equally distributed mod 1, then  $f$  is equally distributed mod 1, i.e.

$$\lim_{T \rightarrow \infty} T^{-1} \text{meas } \{t \mid |f(t) - \lceil f(t) \rceil| < \alpha, t \in (0, T)\} = \alpha.$$

Frantisek Wolf (Berkeley, Calif.).

Source: Mathematical Reviews,

Vol. 13 No. 2

Rydl-Nardzewski, C.

Rydl-Nardzewski, C., et Steinhaus, H. Sur les séries de  
Taylor. Studia Math. 12, 159-165 (1951).

Pólya [Acta Math. 41, 99-118 (1917)] showed that in the space  $A$  of functions analytic in the unit circle, those which can be continued form a nondense set, using a particular topology on  $A$ . The present paper deals with the same problem from a considerably more general viewpoint. Let  $A$  have the topology of pointwise convergence, let  $X$  be an arbitrary Banach space and let  $T$  be a linear transformation of  $X$  into  $A$ . The authors then show that there is an open set  $G$  of the circumference  $C, |z|=1$ , such that each function  $T(x)$  is regular on  $G$ , but that there is a set  $S \subset X$  of first category such that every point off  $G$  is singular for  $T(x)$  when  $x \in S$ . In particular, if  $X$  is extensive enough so that  $G$  is void, then  $T(x)$  has a cut for each  $x \in S$ . Choose  $X$  as the space of sequences  $x = \{x_n\}$  where  $\|x\| = \sup_n |c_n| n^{\log n} < \infty$ , with  $T(x)(z) = \sum x_n z^n$ . The functions  $T(x)$  in  $A$  have radial boundary values on  $C$  which are infinitely differentiable, but those which can be continued arise from a set of first category in  $X$ .

R. C. Buck (Madison, Wis.).

MECC: J. M. (critical review),

Vol. 13 No. 3

SMU

Ryll-Nardzewski, C.

Mikusiński, J. G., et Ryll-Nardzewski, C. Sur l'opérateur de translation. Studia Math. 12, 205-207 (1951).

Dans le corps  $Q$ , soit  $s$  l'élément  $d/dx$  [voir l'analyse ci-dessus]. Alors  $\exp \lambda s$ , défini par une équation différentielle, ne saurait être défini par la série  $\sum_{k=0}^{\infty} (\lambda s)^k / (k!)$ , divergente,

mais on a  $\exp(-\lambda s) = \lim_{n \rightarrow \infty} (1 + s/n)^{-n}$ , si  $\lambda \leq 0$ .

J. Schwartz (Rio de Janeiro).

Source: Mathematical Reviews, Vol 13 No. 1

MIKUSINSKI, J. G.,  
RYLL-NARDZEWSKI, C.: About the Translation Operation

Ryll-Nardzewski, C.

Ryll-Nardzewski, C. Certains théorèmes des moments

Studia Math. 12, 225-246 (1951).

Si  $f$  est une image rectifiable homéomorphe du segment  $(0, 1)$  dans le plan complexe, n'ayant pas plus d'un point dans le cercle  $\{|z| = \rho\}$ , où  $0 < \rho < 1$ , et si  $\{f(z)dz : z \in (0, \rho)\}$  est commutable sur  $\Gamma$ ,  $f$  est nulle sur l'ensemble partout. — J. Schwartz.

Source: Mathematical Reviews,

Vol. 13, No. 5.

RYLL-NARDZEWSKI, C.

Ryll-Nardzewski, C. On quasi-compact measures. Fund.  
Math. 40, 125-130 (1953).

The only measures considered in this paper are countably additive measures on Boolean  $\sigma$ -algebras; otherwise the terminology agrees with that in the preceding three reviews. A measure  $\mu$  on  $M$  is called quasi-compact if, corresponding to any countable subclass  $F$  of  $M$  and to any positive number  $\epsilon$ , there exists a set  $A_0$  in  $M$  such that  $\mu(A_0) > 1 - \epsilon$  and such that the sets  $A_0 \cap A_1$ , with  $A_1$  in  $F$ , form a compact class. The following statements constitute a fair sample of the author's results. The measure  $\mu$  is quasi-compact if and only if for each real-valued measurable function  $f$  there exists a set  $A$  in  $M$  such that  $\mu(A) = 1$  and such that  $f(A)$  is a Borel set. Another necessary and sufficient condition for the quasi-compactness of  $\mu$  is that the restriction of  $\mu$  to every countably generated  $\sigma$ -subalgebra of  $M$  be compact.

The author asserts that, in the presence of a suitable separability assumption, compactness, quasi-compactness, and (almost) isomorphism with Lebesgue measure are equivalent concepts. To the reviewer it appears that non-atomicity should be added to the assumptions.

P. R. Halmos (Chicago, Ill.).

Marczewski, E., and Ryli-Naszewski, C. Projections in abstract sets. Fund. Math. 40, 160-164 (1953).

Suppose that  $X$  and  $Y$  are sets,  $E$  and  $F$  are classes of subsets of  $X$  and  $Y$  respectively, and  $H$  is the class of all Cartesian products  $A \times B$  with  $A$  in  $E$  and  $B$  in  $F$ . The operation of projection, from  $X \times Y$  to  $X$ , does not preserve Boolean operations, and consequently classes obtained from  $H$  by such operations do not necessarily project onto classes similarly obtained from  $E$ . With measure-theoretic applications in mind (see following review), the authors obtain some positive results in this direction in case the class  $F$  is compact (see preceding review). Sample: if  $F$  is compact, then the projection into  $X$  of every non-empty set that is a countable intersection of finite unions of sets in  $H$  is a countable intersection of finite unions of sets in  $E$ .

P. R. Halmos (Chicago, Ill.).

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RYLL-NARDZEWSKI, C.R.

Ryll-Nardzewski, C. A remark on the Cartesian product  
of two compact spaces. Bull. Acad. Polon. Sci. Cl. III.  
2, 265-266 (1954).

Let  $m$  be an infinite cardinal number. Let  $X$  be a countably compact topological space such that every point of  $X$  admits a complete family of open neighborhoods having cardinal number  $\leq m$ . Let  $Y$  be a topological space such that every open covering of  $Y$  of cardinal number  $m$  admits a finite subcovering. Then  $X \times Y$  is countably compact.

E. Hewitt (Seattle, Wash.)

Ry[ie] Nardzewski, C. A remark on the mixing theorem  
Bull. Acad. Polon. Sci. Cl. III, 3 (1955), 297-298.

Let  $T$  be an indecomposable (metrically transitive) measure preserving transformation in a finite positive measure space  $(X, \mathcal{B}, m)$ . Each of the following two conditions, which are known to be equivalent to the weak mixing property of  $T$  if  $T$  is one-to-one, are here shown to be equivalent without this assumption: (a) The square of  $T$ , i.e.  $(T \times T)(x, y) := (Tx, Ty)$ , is indecomposable with respect to the direct product measure  $m \times m$ ; (b) for any complex number  $\lambda$ , the function  $f(x) = \text{const}$  is the only one for which  $f(Tx) = \lambda f(x)$ .

N. Dunford.

J. [Signature] 004

W-FV

RYLL-NARDZEWSKI, C.

On stationary sequences of random variable and the de Finetti's equivalence.  
In English. p. 149  
(COLLOQUIUM MATHEMATICUM. Vol. 4, no. 2, 1957, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.  
Uncl.

RYLL-NARDZEWSKI, C., Hartman, S.

A contribution to the theory of locally compact Abelian groups. In German.p.157.  
(COLLOQUIUM MATHEMATICUM. Vol. 4, no. 2, 1957, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.  
Uncl.

RyL-NARDZEWSKI

## 16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s'ezd. 3rd, Moscow, 1956  
 Trudy. t. 4: Matematicheskie issledovaniya po dokladam Dokladov. Dokladы  
 inostrannyykh uchenykh [Transactions of the 3rd All-Union Mathematical Conference in Moscow, vol. 4; Summary of Sectional Reports].  
 Reports of Foreign Scientists]. Moscow, Izd-vo AN SSSR, 1956.  
 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Eds.: G.N. Shevechkin, Editorial Board: A.A. Abramov, V.O. Bojarkovsky, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.N. Milonovskiy (resp. Ed.), Yu. P. Postnikov, Yu. V. Prokhorov, K.A. Rabinikov, P. L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The paper, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

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Card 30/38

RYLL-NARDZEWSKI, Czeslaw

"A survey of modern algebra" by G.Birkhoff and S.MacLane  
translated by A.Ehrenfeucht and A.Włodzimierz Mostowski.  
Reviewed by Czeslaw Ryll-Nardzewski. Rocznik matematyczny 6  
no.1:100-103 '62.

16,0700

34556  
S/044/62/000/001/001/061  
C111/C444

AUTHORS: Grzegorezyk, A; Mostowski, A; Ryll-Nardzewski, C.  
TITLE: Definability of sets in models of axiomatic theories  
PERIODICAL: Referativnyy zhurnal, Matematika, no. 1, 1962, 13, 14,  
abstract 1A89. (Bull. Acad. polon. sci. Ser. sci. math.,  
astron. et phys., 1961, 9, no. 3, 163 - 167)

TEXT: Let correspond to every formula  $\varphi$  of the elementary theory T a predicate, depending on the same number of variables (which run through the domain of the natural numbers) as the formula  $\varphi$ . The set  $M$  of the predicates thus obtained is called a model of the theory T, if all theorems of this theory are true in  $M$ . The sign  $\models$  means that the formula  $\varphi$  is satisfied in  $M$  in case one gives the free variable  $x_j$  of the formula  $\varphi$  the value  $j$ . With each formula  $\varphi$  of T one can connect the set  $[\varphi]$  of those models  $M$  for which holds  $\models \varphi$ . The set M of all models  $M$  is a topological space, if for a base of open sets the set system  $[\varphi]$  is taken. It is proved that the space M is an absolute G<sub>s</sub>. Let  $E_0, E_1, \dots$  be

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S/044/62/000/001/001/061  
C111/C444

Definability of sets ...

a sequence of formulas of the theory T with the only free variable  $x_1$ , and let  $\vdash_T \Xi_n \rightarrow \Xi_0$  for  $n = 1, 2, \dots$ ,  $\vdash_T$  being the sign of deduction in T. The theory T is called  $\omega$ -closed (with respect to the sequence  $\Xi_n$ ), if for every formula  $\varphi$  it follows  $\vdash_T \Xi_0 \rightarrow \varphi$  from  $\vdash_T \Xi_n \rightarrow \varphi$  ( $n = 1, 2, \dots$ ). The model  $\mathfrak{M}$  is called a  $\omega$ -standard model (with respect to the sequence  $\Xi_n$ ), if to every  $i > 1$  there exists an  $n > i$  such that  $\vdash_{\mathfrak{M}} \Xi_0(x_i) \rightarrow \Xi_n(x_i)$ , where  $\Xi_0(x_i), \Xi_n(x_i)$  are obtained by substituting in  $\Xi_0, \Xi_n$  the variable  $x_1$  by  $x_i$ . It is proved that in case of the theory T being  $\omega$ -closed, the set of all its  $\omega$ -standard-models is a set of complete category of the type  $G_1$  in M. The set of natural numbers Z is called representable in T (with respect to the sequence  $\Xi_n$ ), if there exists a formula  $\psi$  with the only free variable  $x_1$  such that from  $n \in Z$  it follows  $\vdash_T \exists x_1 (\Xi_n \wedge \psi)$  and from  $n \notin Z$  it follows  $\vdash_T \forall x_1 (\Xi_n \wedge \neg \psi)$ . The set Z is called definable in the model  $\mathfrak{M}$  by aid of the formula  $\psi$ , if  $n \in Z$  is

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C111/C444

Definability of sets...

equivalent to  $\models \exists x_1 (\pi_n \wedge \psi)$ . Obviously every set representable in T is definable in every model of T. The following basic lemma is less trivial: The set  $M_Z$  of those models in which a given set of natural numbers Z is definable, is a set of the type  $F_\sigma$  in M; if  $M_Z$  is not of the first category in M, then there exists a finite extension of the theory T in which Z is representable.

If  $\mathfrak{M}$  is no element of M, then  $\mathfrak{M}$  is called an  $\omega$ -standard-model (with respect to the sequence  $\pi_n$ ), if the formula  $\pi_0$  is interpreted in  $\mathfrak{M}$  by the set-theoretical union of the interpretations of the formulas  $\pi_1, \pi_2, \dots$  The set Z is then called definable in  $\mathfrak{M}$  (with respect to the sequence  $\pi_n$ ), if there exists a formula  $\psi$  of the theory T, and an estimation (in  $\mathfrak{M}$ ) of the free variables of the formula  $\psi$  such that the formula  $\exists x_1 (\pi_n \wedge \psi)$  is satisfied in  $\mathfrak{M}$ , if and only if  $n \in Z$ .

By aid of the basic lemma one proves:

- 1.) If T is axiomatizable, and if all recursive sets are representable

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Definability of sets ...

in T, then the following set families are identical with the family of recursive sets:

- a) the family of those sets, being representable in T;
- b) the family of those sets, being definable in all models of T.

2.) If T is  $\omega$ -closed, if all hyperarithmetical sets are representable in T, and if the set (of the Goedel numbers) of the theorems of T belongs to the class  $\Pi$  of the hierarchy of Cliny-Mostowski, then the following set families are identical with the family of hyperarithmetical sets:

- a) the family of those sets, being definable in all  $\omega$ -standard-models of T;
- b) the family of those sets, being representable in T.

[Abstracter's note: Complete translation.]

Card 4/4

GRZEGORCZYK, A.; MOSTOWSKI, A.; RYLL-NARDZEWSKI, C.

Definability of sets in models of axiomatic theories. Bul Ac Pol  
mat 9 no.3:163-167 '61.

1. Institute of Mathematics, Polish Academy of Sciences. Presented  
by A. Mostowski.

(Axioms)

RYLL-Nardzewski, C.

An analogue of Fubin's theorem and its application to random linear equations. Bul Ac Pol mat 8 no.8:511-513 '60.

1. Institute of Mathematics, Polish Academy of Sciences. Presented by E. Marczewski.

(Differential equations, Linear)

GLADYSZ, S.; MARCZEWSKI, E.; RYLL-NARDZEWSKI, C. (Wroclaw)

Concerning distances of sets and distances of functions. Col math 8  
no.1:71-75 '61. (EEAI 10:5)  
(Aggregates) (Distance geometry) (Functions)

Ryli  
NARDZEWski, C.

Mikusinski, J. G., and Ryll-Nardzewski, C. On linear functionals in Abelian groups. Colloquium Math. 1, 294-296 (1948).

Let  $E$  be an additive Abelian group with a Fréchet sequential topology. A subset  $G$  of  $E$  is said to be totally dense if for any  $x \in E$  and any sequence  $\{x_n\}$  for which  $\lim x_n = x$ ,  $x_n \neq x$ , there exists a double sequence  $\{x_{n,k}\}$  such that (1)  $\lim_k x_{n,k} = x_n$ , (2) for every sequence  $\{l_i\}$  of positive integers there exist sequences  $\{n_i\}$  and  $\{k_i\}$  with  $n_{i+1} > n_i$ ,  $k_i > l_i$ , and  $\lim_l x_{n_l, k_l} = x$ . It is shown that an additive continuous functional on a totally dense subgroup of  $E$  can be uniquely extended to an additive continuous functional on all of  $E$ . From this result the authors prove the second representation theorem of Alexiewicz above.

R. E. Fullerton (Madison, Wis.)

LFH

SpWJ

Source: Mathematical Reviews;

Vol. 10, No. 10.

RYLL-NARDOWSKI, G. (Wroclaw)

On Borel measurability of orbits. Fund math 56 no.1:129-  
130 '64.

1. Institute of Mathematics of the Polish Academy of Sciences.

HARTMAN, S.; RYLL-NARDZEWSKI, C.

Almost periodic extensions of functions. Col math 12 no.1:23-29  
164

1. Mathematical Institute, Polish Academy of Sciences, and  
Mathematical Institute, University, Wroclaw.

HARTMAN,S.; RYLL-NARDZEWSKI, C.

Almost periodic extensions of functions. *Bil. Ac.Pol.mat.* 11  
no.7:427-429 '63.

1. Institute of Mathematics, Wroclaw Branch, Polish Academy  
of Sciences. Presented by E. Marczewski.

KACPROWSKI, Janusz; RYLL-NARDZEWSKI, Jan

Acoustic method of detecting defects in ceramic lining plates.  
Rozpr elektrotechn 9 no.4:571-600 '63.

l. Zaklad Badan Drgan, Instytut Podstawowych Problemow Techniki,  
Polska Akademia Nauk, Warszawa.

GRZEGORCZYK, A.; MOSTOWSKI, A.; RYLL-NARDZIŃSKI, C.

Definability of sets in models of axiomatic theories. *Bul Ac Pol mat* 9 no.3;163-167 '61.

1. Institute of Mathematics, Polish Academy of Sciences, Warsaw.  
Presented by A. Mostowski.

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001446420013-6

HARTMAN, S.; RYLL-NARDZEWSKI, C. (Wroclaw)

Recognition of priority. Studia math 21 no.3:375 '62.

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001446420013-6"

GOETZ, A.; RYLL-NARDZEWSKI, C.

On bases of abstract algebras. Bul Ac Pol mat 8 no.3:157-161 '60.  
(EEAI 9:11)

1. Instytut Matematyczny, Oddzial Wroclaw, FAN. Presented by  
E.Marczewski.  
(Algebra)

RYLL-NARDZEWSKI, Jan

Methods of measuring the loudness of compound acoustic signals.  
Proceed vibr probl no.2:3-16 '59.

1. Department of Vibrations, Institute of Basic Technical Problems,  
Polish Academy of Sciences, Warsaw.

REF ID: A

L 5060-66 EWT(m)/EWP(t)/EWP(b)/EWA(h) IJP(c) JD

ACCESSION NR: AP5023725

PO/0034/65/000/008/0356/0357

621.375.024:621.382.2

29

B

AUTHOR: Ryll-Nardzewski, Jan (Master engineer)

TITLE: Compensation of temperature effects in circuits containing the LDG-type logarithmic germanium diode

SOURCE: Pomiary, automatyka, kontrola, no. 8, 1965, 356-357

TOPIC TAGS: germanium diode, electronic circuit, volt ampere characteristic

ABSTRACT: The paper presents a method of compensating the variations of the volt-ampere characteristic of the LDG-type logarithmic-law germanium diode due to temperature changes. The diode was developed in the Zaklad Elektroniki Instytutu Podstawowych Problemow Techniki PAN (Electronics Laboratory, Institute of Fundamental Problems of Technology, PAN). The simplest circuit containing the diode is analytically investigated and a formula for the signal output across the diode,  $U_d \approx \log E$ , is derived. The effects of temperature on the diode operation as described by this formula are then discussed. A circuit compensating temperature effects on the operation of the LDG-type diode is described. It consists of three independent elementary circuits. This circuit is analytically

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investigated and a condition for temperature compensation of  $U_d$  is derived. By using this compensating circuit changes at the limits of the LDG-type diode characteristic, due to temperature variation from 20 to 60C, can be decreased from 20 db to 3 db. Fig. 1 of the Enclosure shows the simplified schematic of a circuit which affects temperature compensation according to the method presented. The operation and design of this circuit are briefly discussed. Orig. art. has: 4 figures, and 14 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 002

Card 2/3

L 5060-66

ACCESSION NR: AP5023725

ENCLOSURE: 01

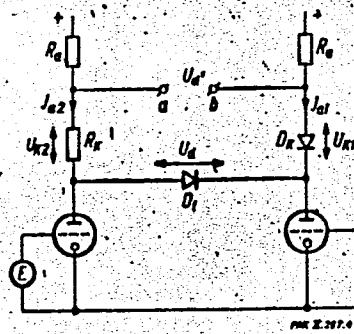


Fig. 1. Schematic of a DC amplifier incorporating a temperature compensating circuit.

Card 3/3 *Md*

RYLL-NARDZEWSKI, JAN

~~FISCHER, F.A.~~

35

PHASE I BOOK EXPLOITATION POL/5981

Symposium on Electroacoustic Transducers. Krynica, 1958

Proceedings of the Symposium on Electroacoustic Transducers [held in] Krynica, 17-26 September, 1958. Warsaw, Państwowe Wydawnictwo Naukowe, 1961. 442 p. Errata slip inserted. 630 copies printed.

Sponsoring Agency: Polish Academy of Sciences. Institute of Basic Technical Problems.

Ed. in Chief: Janusz Kacprowski, Doctor of Sciences; Editing Committee: Ignacy Malecki, Professor, Doctor of Sciences; Wincenty Pajewski, Doctor; and Jerzy Wohr, Master of Sciences; Secretary: Juliusz Mierzejewski.

PURPOSE: This book is intended for physicists and acoustical engineers.

COVERAGE: The book is a collection of detailed research papers constituting the proceedings of a conference held in Krynica from 17 to 26 September 1958 under the auspices of the Institute of Technical Problems, Polish Academy of Sciences.

Card 1/8

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Symposium on Electroacoustic Transducers

POL/5981

The following basic problems are treated: 1) theoretical research on energy transformation processes; 2) experimental development of new types of transducers; 3) electroacoustic measurements; 4) technology of piezoelectric and magnetostrictive materials; 5) construction of transducers for technical needs; and 6) design of acoustical transducer systems. No personalities are mentioned. References (if any) follow the individual articles.

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Preface

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Problems of Research Work on Electroacoustic Transducers. Ignacy Malecki,  
President of the Conference

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Ch. 1. General Problems and Theory of Electroacoustic Transducers

1. Classification of electromechanical transformation methods in the  
light of the tasks faced within [sic] the design and construction  
of electroacoustic equipment. V. S. Grigor'yev

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Symposium on Electroacoustic Transducers

POL/5981

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| 44. Wide-band loudspeaker with a variable angle diaphragm cone.<br>Waclaw Koltonski                           | 415 |
| 45. Application of metallized plastics to diaphragms of con-<br>denser microphones. Jan Ryll-Nardzewski       | 416 |
| 46. Application of transistor converters to the polarization of<br>condenser transducers. Jan Ryll-Nardzewski | 431 |
| 47. Electrocapillary transducer. Bogna Klarner, Saturnina<br>Woszczerowicz, and Mieczyslaw Kowalski           | 435 |

AVAILABLE: Library of Congress

SUBJECT: Electric Power (Electronics)

SK/dmp/gmp  
7-5-62

Card 8/8

POLAND

Jadwiga WOJTKIEWICZOWA and Barbara LECEWICZ-TORUNIOWA, Dermatology  
Clinic of Medical College (Klinika Dermatologiczna AM), Head (kierownik)  
Prof Dr Cz. RYLL-NARDZEWSKI; Lublin.

"Observations on Pemphigus."

Warsaw, Polski Tygodnik Lekarski, Vol 17, No 43, 22 Oct 1952; pp 1668-1672.

Abstract [English summary modified]: Of 24 patients treated during 10 years, 14 received either cortisone or prednisone and ACTH; 17 died, 3 improved, no data on 3. Authors suggest that there may be gradual transition of one of the 4 types (vulgaris, sebaceous, vegetans, filiaceus) into other. Comprehensive clinical data and discussion of therapeutic results and prognostic indicators. Three tables, 4 Polish and 11 Western references.

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2

RYLL-NARDZEWSKI, (Wroclaw)

Example of a non-separable B-space in which every bounded set is  
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RYLLO, S.V.

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POLAND

RYMASZEWSKA, Maria

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in apartment houses. Gor.khoz.Mosk. 34 no.2:19-21 7 '60.  
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planirovochnogo upravleniya (for Shevchenko, Ryollo). 2. Upravleniye  
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(Apartment houses--Maintenance and repairs)  
(Reinforced concrete)

RYL'NIKOV, A. P. (Engr)

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(Metals -- Testing) (Gintsburg, IA.)

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✓ Device for Inoculating Cast Iron with an Alloy of Ferro-silicon and Magnesium. A. A. Ryl'nikov and A. I. Yakovlev. (Litinoe Proizvodstvo, 1954, 10, 69-71). [In Russian]. A device successfully used for the safe inoculation of cast iron with magnesium alloys is described in which these alloys are introduced below the iron surface.—S. K.

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Temperature control of laboratory heat-treating furnaces. Zav.  
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1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy  
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RYL'NIKOV, A.P.

Changes of carbon content in magnesium cast iron. Lit. proizv.  
no. 5:29-30 My '61. (MIRA 14:5)  
(Cast iron—Metallography) (Iron founding)

RYL'NIKOV, A.P.

USSR / Atomic and Molecular Physics. Heat

D-4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, 9013

Author : Ryl'nikov, A.P.

Title : Concerning the Temperature Control of Laboratory Heat Treating Ovens

Orig Pub : Zavod. laboratoriya, 1956, 22, No 8, 999-1000

Abstract : No abstract.

Card : 1/1

RUL'NIKOV, A. P.

Distr: 4E2c

Temperature Control of Laboratory Heat-Treatment Furnaces  
by A. P. Rul'nikov [Zavodskaya Laboratoriya, 1856, 22,  
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for heat treatment of machine elem.

BORZDYKA, A.M.; VITKINA, E.I.; RYL'NIKOV, A.P.; SINITSYN, K.K.; BERNSHTEYN,  
M.L., red.; GOLYATKINA, A.G., red. izdatel'stva; ISLENT'YEVA, P.G.,  
tekhn.red.

[Ferrous metallurgy of capitalist countries] Chernaya metallurgiya  
kapitalisticheskikh stran. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry  
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1. Russia (1923- U.S.S.R.) Ministerstvo chernoy metallurgii.  
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(Steel--Testing)

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001446420013-6

RYL'NIKOV, V., kapitan.

Tankers' combat training. Voen.znan. 31 no.9:8-9 S '56. (MLRA 9:11)  
(Tank warfare)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001446420013-6"

KIDIN, I.N., doktor tehn.nauk, prof.; SHTREMEL', M.A., inzh.;  
RYL'NIKOV, V.S., inzh.

Precipitation hardening of iron-chromium alloys. Metalloved. i  
term. obr. met. no.9:8-13 S '62. (MIRA 16:5)

1. Moskovskiy institut stali i splavov.  
(Iron-chromium alloys—Hardening)

S/129/62/000/OC9/OC2/C06  
E193/E533

AUTHORS: Kudin, I.N., Doctor of Technical Sciences Professor,  
Sitrnevich, N.A. and Ryl'nikov, V.S., Engineers.

TITLE: Phase-transformations as means of improving the  
strength of iron-chromium alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,  
no. 9, 1962, 8 - 13

TEXT: This article is concerned with hardening due to  
 $\gamma \rightarrow \alpha$  transformation in "carbon-free" iron-base alloys containing such a small proportion of carbon (0.05 - 0.05%) that it affects neither the temperature of carbon nor the kinetics and mechanism of the  $\alpha \rightarrow \gamma$  transformation. A large amount of published data, both Soviet and foreign, is discussed of this type (e.g. alloy C3X5 (CJKh5) containing 0.26% C, 4.93% Cr, 0.22% Si, 0.4% Mn and 0.27% Ni) brought about mainly by quenching and aging at 200 - 300 °C. It is associated with the first stage of polygonization. The increase in strength due to work-hardening and due to a 1/3 although 1/3

S/129/62/CCC/0C9/0C2/CC6  
E193/E383

Phase-transformations as ....

to  $\gamma \rightarrow \alpha$  transformation is approximately the same, quenched alloys retain their strength at higher temperatures than cold-worked materials. This is due to the basic difference between the fine structure of quenched and cold-worked material: the phase transformation-induced deformation brings about uniform distribution of dislocations in the volume of the alloy and among all the systems of slip; the boundaries of the resultant fragments consist of dislocations of various types which, consequently, have low mobility and cannot readily transform into more mobile grain boundaries. This difference is reflected in the relaxation stability of quenched and cold-worked alloys, as demonstrated in Fig. 4, which shows the relaxation curves (stress,  $\text{kg/mm}^2$  versus log time, min) for alloy 03Kh5 (graph a) and alloy 04X5C (04Kh55) (graph b), the various curves relating to specimens subjected to the following treatments:  
1) quenching; 2) quenching plus annealing at  $500^\circ\text{C}$ ;  
3) 70% reduction in rolling; 4) rolling followed by annealing at  $500^\circ\text{C}$ . The relaxation stability of quenched Cr-bearing ferritic alloys at  $400^\circ\text{C}$  (under a stress of  $40 \text{ kg/mm}^2$ ) is not lower than that of pearlitic steels. Similarly, the stress

Card 2/3

KOROLEV, N.V.; RYL'NIKOVA, A.G.

Developing methods to determine the mineralogical composition  
of nonmetallic inclusions in reflected polarized light. Sbor.  
trud. TSNIICHM no.38:76-85 '64. (MIRA 18:3)

CHERVYAKOV, Aleksandr Nikolayevich; KISELEVA, Sof'ya Aleksandrovna;  
RYL'NIKOVA, Alla Grigor'yevna; FOMIN, N.V., red.;  
~~BERLIN, Ye.N.~~, red. izd-va; VAYNSHTEYN, Ye.B., tekhn. red.

[Metallographic determination of inclusions in steel] Metal-  
lograficheskoe opredelenie vkluchenii v stali. Izd.2., perer.  
i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi  
i tsvetnoi metallurgii, 1962. 248 p. (MIRA 15:2)  
(Steel--Defects) (Metallography)

VINOGRAD, M.I.; GROMOVA, G.P.; RYL'NIKOVA, A.G.; SMIRNOVA, A.V.

Methods of investigating inclusions in smelting baths with varying plasticity at high temperatures. Sbor. trud. TSNIICHM no.24: 261-278 '62. (MIRA 15:6)

(Steel--Inclusions) (Metals at high temperatures)

RYL'NIKOVA, A.G.; LEBEDEVA, S.B.

Petrographic study of the anodic deposits of nonmetallic inclusions  
subjected to a special treatment. Sbor. trud. TSNIICHM no.32:  
75-81 '63. (MIRA 16:12)

BORISOVA, O. S.; VYV. M. KOWAL, A. G.

Effect of conditions of oxidizing annealing on the properties of an  
ore and lime mixture. Stal' 24 no. 91815-817 S. 164. (MDKA 1710)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii  
imeni L. bardina.

L 34834-66

EWT(m)/EMP(t)/ETI

IJP(c)

SOURCE CODE: UR/0027

ACC NR: AP6014024

40

41

B

AUTHOR: Sumbayev, O. I.; Mezentsev, A. F.; Marushenko, V. I.; Petrovich, Ye. V.

Yul'nikov, A. S.

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR (Fiziko-tehnicheskiy  
institut AN SSSR)TITLE: Chemical shift due to screening of the inner levels of heavy elements  
861-870SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 4, 1966,  
TOPIC TAGS: heavy element, inner level, screening, chemical bonding, atomic  
structure, atomic property, tin, molybdenum, tungsten, chemical bonding, atomic  
ABSTRACT: Chemical shifts of the K<sub>α</sub>, x-ray lines of Mo-MoO<sub>3</sub>, Sn-SnO<sub>2</sub>, and W-WO<sub>3</sub>  
were measured by a method based on alternately introducing the compared sources into  
the field of vision of the Cochois diffraction spectrometer with compensated aperture  
aberrations. The E(K<sub>α</sub>) energy differences for the metal and oxide are respectively  
 $+192 \pm 7$ ,  $-152 \pm 5$ , and  $+110 \pm 33$  Mev. Thus, the results previously obtained by the  
authors (O. I. Sumbayev, A. F. Mezentsev, ZhETF, 48, 445, 1965) for Sn-SnO<sub>2</sub> now have  
been confirmed by an improved experimental arrangement. It is shown that despite the  
usually accepted viewpoint (A. Sandstrom, Handb. der Phys., 30, 158, 1957), the inner  
(K, L) atomic level shifts, due to the formation of chemical bonds, are appreciable,  
including the heaviest elements. Moreover, their absolute value remains approximately

Card 1/2

Card -1&lt;IV

ACC NRI AP6022509

L 10450-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD/JU SOURCE CODE: UR/0f33/66/000/004/0359/0358

AUTHORS: Vinograd, M. I.; Gnuchev, S. M.; Gromova, G. P.; Smirnova, A. F.; Ryl'nikova, A. G.; Osnovin, V. A.; Krasnova, A. K.; Likhnova, I. V.; Yegorshina, T. V.

ORG: none

TITLE: Nonmetallic inclusions in melts of steel 08Kh2ON10G6 exhibiting different hot technological plasticity

SOURCE: Stal', no. 4, 1966, 355-358

TOPIC TAGS: alloy steel, metallurgic research, aluminum, cerium / 08Kh2ON10G6 alloy steel

ABSTRACT: The effect of aluminum and rare earth elements (mainly cerium) on the technological plasticity of steel 08Kh2ON10G6 was investigated. The investigation supplements the results of V. A. Osnovin and S. M. Gnuchev (Byulleten' TsIINChM, 1964, No. 6). The microstructure and twisting strength of the specimens was determined as a function of the temperature and nature of the reducing agent (see Fig. 1). It was found that addition of 1.5--2.0 kg/ton of Al and rare earth metals (0.15--2.0% on the basis of Ce) to steel 08Kh2ON10G6 leads to a considerable increase in the high temperature plasticity of the latter. S. B. Lebedeva, I. A. Prokof'yeva, and L. I. Volkova participated in the experimental work.

UDC: 669.15:658.562

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L 10450-67  
ACC NR. AP6022509

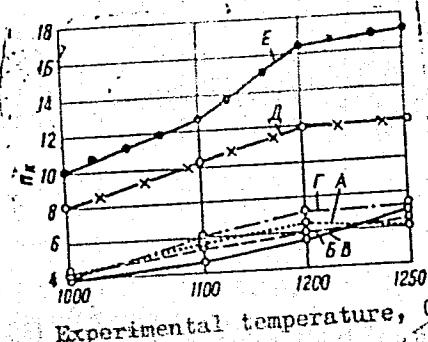


Fig. 1. Results of torsion tests at high temperatures ( $n_k$  - number of revolutions at which failure occurred) of different melts A - E. Specimen A reduced in the usual way. All others reduced as described above.

Orig. art. has: 1 graph and 6 photographs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 009